US Army Corps of Engineers®

R&D Program: TOWNS

Work Unit: Nonstructural Analysis For Flood Damage Reduction

Needs & Problems Addressed:

- nonstructural flood damage reduction analysis
- Provide integrated analysis tools to replace inefficient manual analysis

Objectives:

- To develop and transfer new nonstructural analysis methods to enable the Corp to efficiently perform its flood damage reduction analysis responsibilities

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Work Unit Funding Profile:

FY03	FY04	FY05	Total
$100k	$150k	$100k	$350k

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Business Program/Missions Areas Supported:

- Inland Navigation __ %
- Coastal Navigation __ %
- Coastal Storm Damage Reduction 25 %
- Inland Flood Control/Damage Reduction 75 %
- Environmental Protection & Quality __ %
- Multi-Purpose (Hydropower, Rec & Water Supply) __ %
- Emergency Management __ %
- Regulatory __ %
- Support for Others __ %

(Must to add to 100%) Total: 100 %

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CW Strategic Goals Check List: (check if applies)

- Provide sustainable water resources development & mgmt _X_
- Restore past environment degradation ___
- Provide project services of high quality _X_
- Reduce losses from natural & manmade hazards _X_
- Supports being a world class technical leader _X_
- Addresses strategic or system needs in a framework or integrated approach by developing:
  - Methods or decision support tools _X_
  - Technology to improve life cycle productivity _X_
  - Technology to monitor systems, provide feedback and develop operating guidance _X_

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Which “short term” field needs does this support:

- Improves Corps’ efficiency to perform plan formulation for nonstructural analysis.
- Expedites project-level decision making by providing integrated analysis tools that allow nonstructural analysis to be done in a more expedient way

Field Review Group Relative Ranking:

- FRG planned 21-22 August 2002

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Listening Sessions Check List: (check if applies)

- Improves data sharing/exchange with the public in these areas:
  - Provides one stop shop for maps & data for basin wide planning ___
  - Provides data to make informed decisions _X_
  - Provides a system for basin wide planning ___
  - Provides information about what is happening at Corps facilities ___ (up to date web sites)
- Tech Transfer plan to include educating the public _X_
- Coordinate research, models, analysis with regulatory agencies to insure results will be accepted _X_
- Develop R&D products:
  - For watershed management plans, not just at the project level ___
  - To include aesthetics as components of all projects ___
- Create better models for ground & surface water ___

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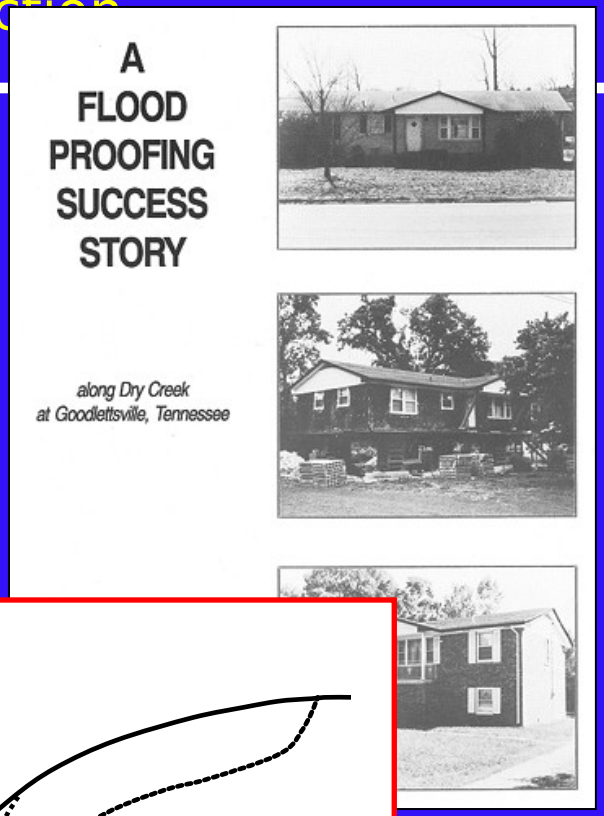
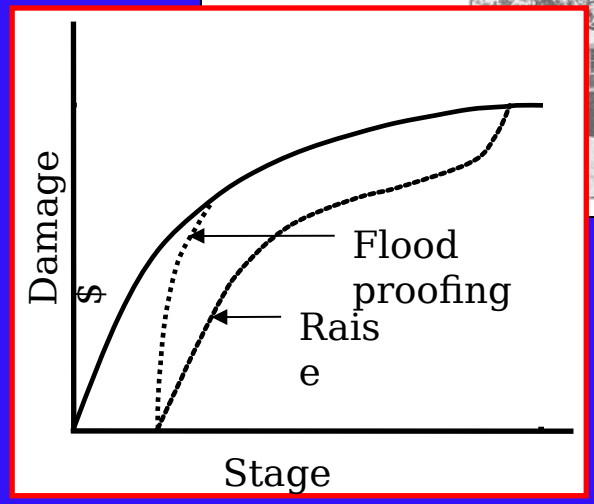
Products:

- Nonstructural analysis methodology
- Interoperability with hydrology and hydraulics and data management scheme
- Nonstructural analysis software methodology incorporated within HEC-FDA
- Incorporate new methods into PROSPECT training, and TOWNS website





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Benefits

- Direct:
  - Provides method to properly evaluate nonstructural solutions when evaluating Corps flood damage reduction projects alternatives
  - ROI ratio potentially significant if nonstructural solutions selected over structural solutions
- Indirect:
  - Provides fundamental guidance for planning process
  - Enhances project evaluations capabilities

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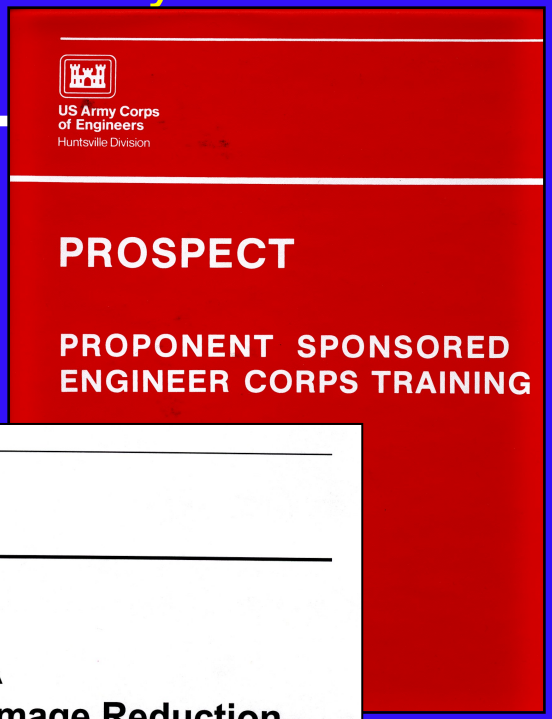
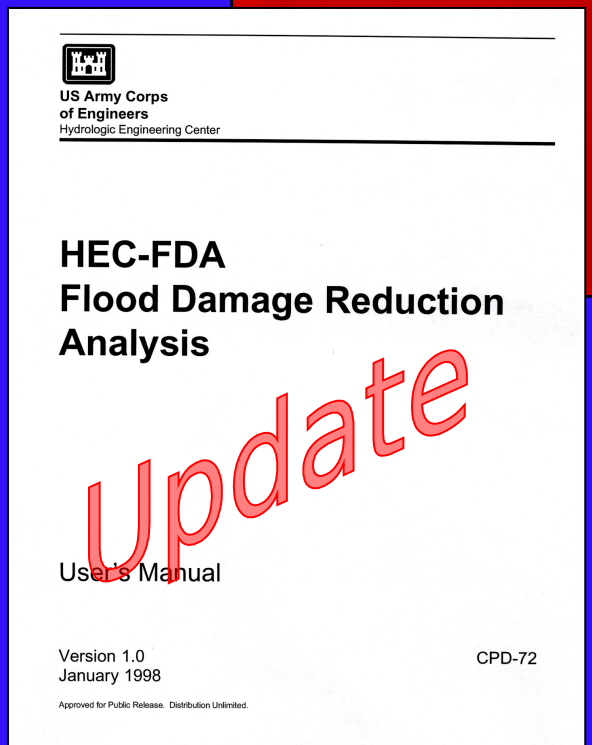
Technology Transfer Plan:

- Methodology inserted into existing HEC-FDA software
- Documentation in the HEC-FDA user's manual
- Non-structural methodology taught in PROSPECT training courses
- Workshops for training as needed
- Products shared with the National Flood Proofing Committee to promote non-structural flood damage reduction measures





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Why should the Corps fund this R&D, instead of private industry and/or others:

- Private industry has little incentive to develop analysis procedures for Corps software and Corps project analysis

What is Impact if not started:

- Continued inefficiency during the analysis of nonstructural structural flood damage reduction measures which directly leads to higher study costs and indirectly may lead to improper selection of structural flood damage reduction measures